

#### BRIEF:

# CLIMATE MIGRATION IN MEXICAN AND CENTRAL AMERICAN CITIES

February 2022

in partnership with



# Credits and Acknowledgments

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### Introduction

The climate crisis is becoming a prominent driver of human mobility. According to the World Bank's Groundswell report, climate impacts could force 216 million people to move within their countries in just six regions by 2050.¹ Globally, it is estimated that over 1 billion people are at risk of being driven from their homes for climate-related reasons.²

These estimates are drawn from the important and growing body of research that projects possible climate migration futures at the regional or country scales. Until now, these models have not specifically been applied to urban areas, the primary destination of international and internal migrants and home to 70 percent of the world's refugees, internally displaced persons (IDPs), and stateless people.<sup>3</sup>

This brief summarizes findings from a report prepared for the Mayors Migration Council by researchers at Columbia University and the City University of New York to help us better understand the effects of climate-related internal migration on urbanization in Mexico and parts of Central America (Costa Rica, El Salvador, Guatemala, Honduras, and Panama).<sup>4</sup>

Building on the Groundswell methodology while incorporating refinements to better capture the urban dimension of climate migration, the research finds that climate-related disruptions to food production and water availability could have significant repercussions for migration and result in growing urban populations. Without concrete climate and development action, up to 10.5 million climate migrants may make their way to urban centers in Mexico and Central America by 2050. Climate in-migration hot spots across the region will emerge in larger urban areas with better climate conditions and more livelihood opportunities, including in Mexico, where cities could receive 8 million climate migrants in the next 30 years.



Climate in-migration to cities may become the new normal, but it does not need to become a crisis. Early planning and local investments could help city hot spots prepare for new arrivals, including through improved social services and infrastructure. If well-planned and managed, in-migration can create positive outcomes in urban areas, including more vibrant communities and economies.

While we need further research on how the climate crisis impacts human mobility and urbanization on a global scale, our hope is that this work highlights the clear and immediate urgency for driving national and international investment to city governments and local communities as first responders to climate migration.

Beginning with a high-level overview of the regional context and methodology, this brief summarizes the results of the study at the regional and country levels and closes with key recommendations for decision-makers.

### Context

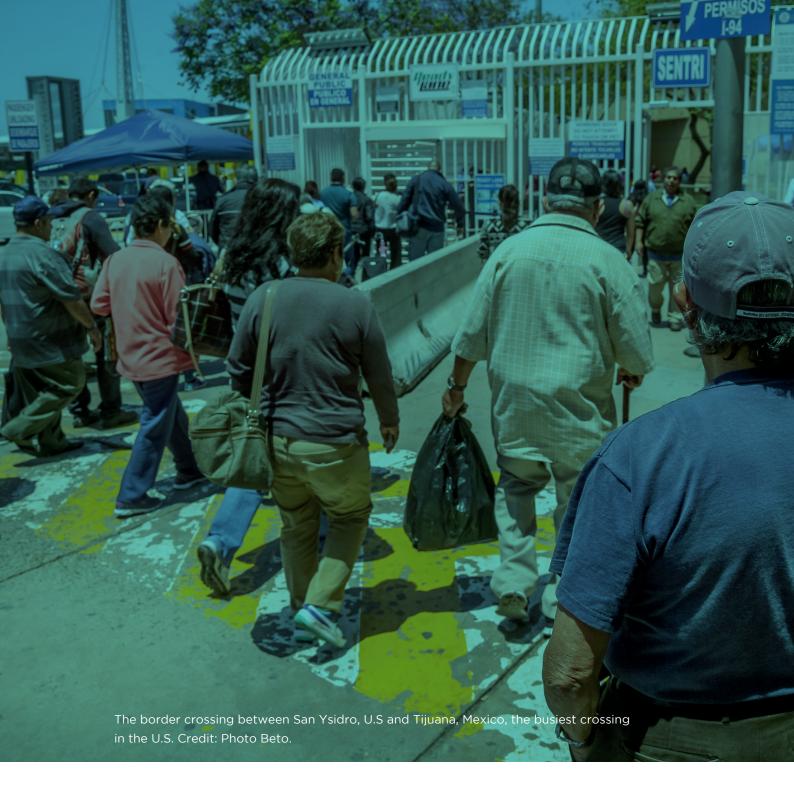
As the US government recently stated in its Report on the Impact of Climate Change on Migration, climate-related mobility is "increasingly an urban phenomenon, with many of those displaced and migrating moving to urban areas." This is particularly evident in Mexico and Central America, a region prone to flooding, drought, cyclones, and landslides, and where rural livelihoods are dependent on highly variable rainfall patterns. The region is increasingly ravaged by tropical storms and hurricanes, events often accompanied by massive flooding, such as during the back-to-back hurricanes Eta and lota that hit Honduras and Guatemala in November 2020. These events often impact export and subsistence crops, lessening the viability of rural livelihoods and acting as drivers of rural-to-urban migration.6

The World Bank estimates that as many as 17 million people in Latin America could internally migrate by 2050 due to the climate crisis, doubling current yearly averages. According to the Groundswell report, here "the urban transition"

is already in full swing and most movement is thus likely to be urban to urban or urban to peri-urban."8

Without proper planning and resources, this substantial demographic increase may put additional pressures on city governments to provide new arrivals with the affordable housing, job opportunities, health care, education, and safe living conditions they need to survive and thrive. As cities themselves are often acutely vulnerable to climate hazards, migrants and displaced people settling in marginalized urban neighborhoods may also end up swapping one set of climate risks for another.

Mayors and city governments from the region are already taking action to prepare and provide for a growing urban population. Mexico City, for example, is extending livelihood opportunities to migrants with direct financial support from the United Nations Start-Up Fund for Safe, Orderly and Regular Migration (or Migration MPTF)<sup>9</sup> and the Mayors Migration Council's Global Cities Fund.<sup>10</sup>



While migration does not need to be a challenge, it may become one if it is not well-managed. The real challenge is to ensure that city governments have the resources and mandate they need to prepare and provide for migrant and marginalized residents while simultaneously building resilience and mitigating the impacts of the climate crisis on a growing population.

Climate migration is a daily reality for city governments that are already using strained resources to welcome new arrivals and include marginalized people in a green and just transition. If city governments are left without direct investments or decision-making power, the demand for life-saving services can outweigh their capacities, affecting millions of lives that are already at risk.

# **Approach**

Focusing on Mexico and five countries in Central America (Costa Rica, El Salvador, Guatemala, Honduras, and Panama), 11 the research prepared for this brief builds on modeling work conducted by Bryan Jones in "The Great Climate Migration," an article by The New York Times Magazine, ProPublica, and The Pulitzer Center, 12 which itself derives from methods developed for the World Bank's Groundswell: Preparing for Internal Climate Migration (Part 1)<sup>13</sup> and Acting on Internal Climate Migration (Part 2)<sup>14</sup> reports.

The objective of this research and the applied modeling is to better understand likely future patterns of climate-related migration to large urban agglomerations, peri-urban areas, and smaller urban centers. The modeling employs different scenarios to provide estimates of changes in the population distribution (and indirectly, migration) as a function of climate and development trends. These include a pessimistic scenario, which combines significant greenhouse gas emissions with challenges to socioeconomic development throughout the region, and a more climate-friendly scenario that combines lower global emissions, though with a similarly challenging socioeconomic future.15



# **Key Findings**

#### **Regional Results**

As the Groundswell report states, "climate migration is already taking place." Our closer look at future projections in Mexico and Central America shows that climate migration is predominantly taking place in the region's cities. As the consequences of the climate crisis grow in the coming decades, the scale of climate migration is expected to increase, driving urbanization in the region.

Two key findings and their implications are as follows.

1: The climate crisis will drive more people to cities in Mexico and Central America.

With out-migration becoming a common risk management strategy in marginalized, at-risk environments within Mexico and Central America, the region could see up to 10.5 million climate migrants moving to urban centers by 2050. While more sustainable development pathways may reduce this number, the fact remains that Mexico and Central America are highly susceptible to various climate impacts, both sudden and slow. Climate change-induced disruptions to food production and water availability—as well as direct impacts like hurricanes, flooding, and heat waves—could have significant repercussions for migration and for growing urban populations.

Figure 1: Hot spots projected to have high levels of climate in-migration and climate out-migration in Mexico and Central America.



#### **In-migration**

- High certainty in high levels of climate in-migration
- Moderate certainty in high levels of climate in-migration

#### **Out-migration**

- High certainty in high levels of climate out-migration
- Moderate certainty in high levels of climate out-migration

Implications: City governments of all sizes across the region must immediately prepare for population growth while also increasing urban resilience to mitigate the effects of drought, sea level rise, increasing temperatures, and worsening natural disasters. What's more, this urban growth tends to occur in periphery areas that are currently underserved, unplanned, and at a higher risk of these climate impacts.

# 2: Climate in-migration will reach larger cities in Mexico and Central America.

In a pessimistic scenario without concrete climate and development action, large cities across the region could gain an average of 8.7 million people—with a high-end projection of up to 10.5 million—due to climate in-migration, while smaller non-rural settlements, such as towns and suburbs, could lose 450,000 people due to climate out-migration by

2050. This may be because the largest urban centers in the region, including Mexico City, Monterrey, Guadalajara, Guatemala City, San José, and Tegucigalpa, tend to be in highland areas away from the coastlines. This means that the region's largest cities are less likely to be affected by sea-level rise and enjoy more temperate climates than coastal areas.

Implications: The size and location of large urban centers in Mexico and Central America make them hot spots for climate in-migration. While there is a common assumption that larger cities tend to have more resources and capacity to manage dense, large, and diverse populations, unsustainable urban growth may exacerbate the marginalization of unplanned and/or underserved areas on their periphery. In the case of adjacent cities such as San José and Cartago in Costa Rica and San Salvador and Lourdes in El Salvador, uncontrolled urban growth may lead to geographic amalgamation and jurisdictional governance issues.



#### **Country Results**

This section presents snapshots of the country-level results of climate inmigration for Mexico, El Salvador, Guatemala, Honduras, Costa Rica, and Panama.



#### Mexico

By 2050, Mexico will see anywhere from a low of 90,000 to a high of 8 million climate migrants moving to urban centers ranging in size from Mexico City to middle-sized cities such as Monterrey and Guadalajara. At the high end of the pessimistic scenario, the projected number of climate migrants will range from 5 million in Mexico City to 850,000 in Monterrey and 750,000 in Guadalajara.

#### Guatemala

By 2050, Guatemala will see anywhere from a low of 37,000 to a high of 187,000 climate migrants moving to urban centers ranging in size from Guatemala City to middle-sized cities. At the high end of the pessimistic scenario, the projected number of climate migrants will be 1.3 million in Guatemala City and 60,000 in Quetzaltenango, Guatemala's second-largest city. Rural villages, towns, and small cities in Guatemala will see climate out-migration owing largely to climatedriven declines in agricultural production.





#### **El Salvador**

By 2050, El Salvador will see anywhere from a low of 550 to a high of 173,000 climate migrants moving to urban centers ranging in size from San Salvador to middle-sized cities. At the high end of the pessimistic scenario, the projected number of climate migrants will be 150,000 in San Salvador and 2,500 in Lourdes. Rural areas may experience out-migration due to climate impacts, largely due to growing water scarcity and its effects on agricultural productivity.



#### **Honduras**

By 2050, Honduras will see anywhere from a low of 3,700 to a high of 742,500 climate migrants moving to urban centers ranging in size from Tegucigalpa to middle-sized cities. At the high end of the pessimistic scenario, the projected number of climate migrants will be 380,000 in Tegucigalpa and 300,000 in San Pedro Sula, Honduras' second-largest city. Unlike in Guatemala and El Salvador, Honduras' rural areas will see relatively high levels of population growth. This suggests some people may be trapped in at-risk, remote environments, unable to move due to worsening climate conditions or lack of resources, or they may simply be unwilling to do so for other reasons.

#### **Costa Rica**

By 2050, Costa Rica will see anywhere from a low of 1,200 to a high of 147,700 climate migrants moving to urban centers ranging in size from San José to middle-sized cities. At the high end of the pessimistic scenario, the projected number of climate migrants will be 150,000 in San José, which by that point will merge with the second largest city, Cartago. Rural clusters will see high climate out-migration relative to other countries.





#### **Panama**

By 2050, Panama will see anywhere from a low of 600 to a high of 127,200 climate migrants moving to urban centers ranging in size from Panama City to middle-sized cities. At the high end of the pessimistic scenario, the projected number of climate migrants will be 100,000 in Panama City and 15,000 in Arraijan, a city to the west of Panama City. There could be significant levels of climate out-migration from rural towns and villages, approaching as many as 50,000 migrants.

# **Global Recommendations**

The climate crisis is not only driving internal human mobility to cities in Mexico and Central America, but around the world.

While cities are attractive points of arrival, unsustainable and unplanned growth can trap vulnerable populations in cycles of inequality and marginalization. Much of the modeled urban growth described in this brief will take place in low-income and/or unplanned urban areas, such as San Salvador's San Marcos suburb or San José's La Caprio settlement. Without proper planning, inclusive climate action that considers the needs and preferences of migrant and displaced communities, and support to city governments, these disadvantaged populations will be forced to fend for themselves, even after leaving their homes in search of a better life.

With foresight and planning, city governments can make room for newcomers while also creating opportunities for them to contribute to the inclusive and sustainable growth of their receiving communities as active agents of change in a green and just transition.

But cities can't do it alone.
International and national actors
focused on inclusive climate action
should include mayors and city
governments in policy decisions,
increase financial investment
to improve city capacities and
services, and pass reforms to
development and migration policies
that allow for a fairer distribution
of migration and a more equal
representation of cities in setting
policy.

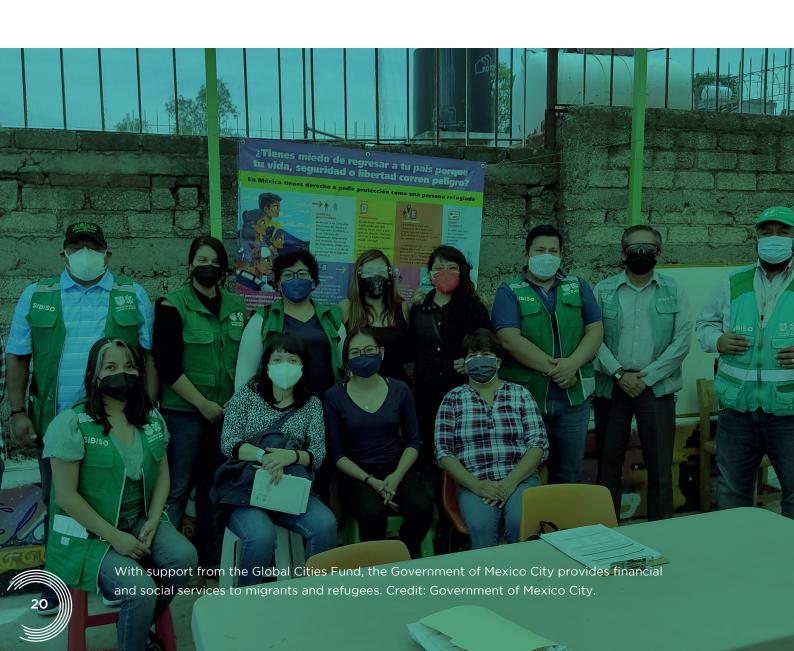


To achieve a more inclusive and greener urban future, international and national actors should:

ONE: Invest in city governments to implement projects that focus on the inclusion of migrant and displaced people while mitigating the impacts of the climate crisis on marginalized communities and fast-growing, at-risk urban areas.

This investment should utilize existing funding and/or financing mechanisms to directly resource city-led projects. Examples

include the new Global Cities Fund for Inclusive Climate Action,<sup>17</sup> which unlocks direct technical and financial resources to cities addressing the needs of migrant and displaced communities affected by the climate crisis, or UN-level funds such as the Migration MPTF or the Green Climate Fund,<sup>18</sup> two funding mechanisms that benefit national governments but could be adapted to include city governments as implementation partners, or possibly, eligible recipients.



#### **GOOD PRACTICE**

#### The Global Cities Fund

The Global Cities Fund (GCF)<sup>19</sup> is the MMC's response to the unmet needs of cities as they support migrants, refugees, and IDPs in the face of pressing challenges, from global pandemics to the climate implement inclusive programs of their own design, the GCF builds city governments that are often disregarded by donors with low risk tolerance. The GCF is led by the MMC in partnership with 5 key Strategic Partners: the C40 Cities Leadership Group (C40 Cities), the UN Migration Agency (IOM), United Cities and Local Governments (UCLG), the United Nations Human Settlements Programme (UN-Habitat), and the UN Refugee Agency (UNHCR). Each Strategic Partner provides on-the-ground technical and coordination support to city grantees, advises on the development of the pipeline of projects, and amplifies the GCF's

The inaugural chapter of the GCF, the Global Cities Fund for Inclusive Pandemic Response, currently supports nine city grantees<sup>20</sup> implementing projects that benefit over 8,000 migrants, refugees, and IDPs with contributions from the Open Society Foundations and Building on this successful initial phase, the MMC partnered with the Robert Bosch Stiftung and C40 Cities to launch a new chapter of the GCF, the Global Cities Fund for Inclusive Climate Action, to provide city governments with direct technical and financial resources to address the needs of migrant and displaced communities affected by the climate crisis.

Combined with the inaugural city grantees of the GCF, this initiative will bring the total number of cities supported by the GCF to nearly 15, making significant progress to the collective Call to Action of the MMC and its Strategic Partners for international community to provide at least 22 cities with direct technical and financial support by the end of 2022: 22 by 2022.<sup>21</sup>

TWO: Partner with city governments to continue building the research base for climatedriven urbanization and evidence-based approaches to climate mitigation and migrant inclusion.

Continued research should include localized future scenario modeling to better understand the quantitative scale of climaterelated urbanization in other regions, but also qualitative data

to better understand the profiles, motivations, and vulnerabilities of climate migrants to add a human lens to future trends. As more cities take inclusive climate action that puts people at the center, research should further evolve to include rigorous evidence of what works and the possible benefits of city-level responses, as well as the socio-economic value of building inclusive communities.



#### **GOOD PRACTICE**

#### **4Mi Cities**

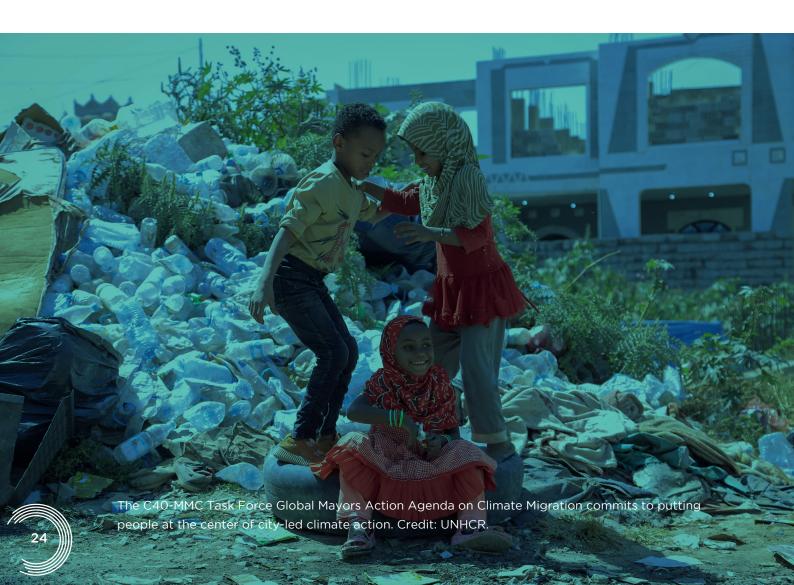
The Mixed Migration Centre and Mayors Migration Council's joint 4Mi Cities data collection project works directly with six city governments in two regions to uncover the needs, assets, and aspirations of urban migrants and refugees as they interact with loca policies and services. With city governments involved throughout the project as equal partners, 4Mi Cities builds the evidence base

to better inform local responses to mixed migration in cities, as well as creates a strong case for the promotion of enabling legal, fiscal, and policy frameworks at the national and international level. The first two regions are taking place in Latin America with Barranquilla, Medellín, and Mexico City, and in East Africa with Arua, Nairobi, and Kampala, but the vision is to scale to other cities and regions.

THREE: Involve city governments as policy-makers in national, regional, or international policy deliberations and stock-taking on climate migration.

Both the Global Compact for Safe, Orderly, and Regular Migration (GCM)<sup>22</sup> and the Global Compact on Refugees (GCR)<sup>23</sup> call for deeper understanding of climate change as a driver of human mobility. Each Compact includes commitments to addressing root causes and to enacting policies to better protect those affected.<sup>24</sup> As cities meet and exceed the goals of the GCM, GCR, the Paris Agreement,<sup>25</sup> and other global agendas, international

actors should involve mayors and city governments in further agenda-setting and stock-taking. As the GCM and GCR both contain commitments to engage local governments as first responders, the review processes set for the Compacts in 2022, 2023, and beyond are an ideal opportunity to include the perspectives and contributions of cities. At the national level, states should increase consultation with mayors and city governments in the design, implementation, and funding of migration policy to facilitate the settlement and socioeconomic inclusion of newcomers.



#### **GOOD PRACTICE**

# Global Mayors Task Force on Climate and Migration

The C40-MMC Global Mayors
Task Force on Climate and
Migration, founded by the Mayors
of Barcelona (Spain), Bristol (UK),
Dakar (Senegal), Dhaka North
(Bangladesh), Freetown (Sierra
Leone), Houston (U.S), Lima (Peru),
Los Angeles (US), and Milan (Ital y),
is an example platform elevating
mayoral voices in international
diplomatic fora.<sup>26</sup>

On the sidelines of the United Nations Climate Change Conference (COP 26) in November released the Global Mayors Action Agenda on Climate and Migration outlining bold steps to accelerate global responses to the climate crisis and human mobility.<sup>27</sup> The mayor-led agenda includes specific measures already being delivered in many cities around the world which must become the "new normal" to deliver inclusive climate action that protects people most affected by climate displacement in the green and just transition. These include investments to displacement; approaches to

facilitate the dignified movement of those who live in risk-prone areas; increasing access for newcomers to urban infrastructure and services regardless of migration status; and green and decent job creation programs for urban migrants and displaced people.

This mayoral leadership comes at a critical inflection point for global action on climate migration after the White House issued its Report on the Impact of Climate Change on Migration, marking the first time the US government officially recognized the impact of climate breakdown on migration.<sup>28</sup> The report came after C40-MMC Task Force Mayors of Los Angeles, a joint letter to the U.S President calling on the administration to partner with cities to proactively crisis on migration at home and abroad.<sup>29</sup> The report responds to localities plan for, accommodate,

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